

B.Tech. Biotechnology: Semester-VII BBT 706: BIOPHYSICS	
Teaching Scheme	Examination Scheme
Lectures: 3 hrs/Week	Class Test -12 Marks
Tutorials: 1 hr/Week	Teachers Assessment – 6 Marks
Credits: 4	Attendance – 12 Marks
	End Semester Exam – 70 marks

Course Objective

The course aims to build on concepts of instrumentation, its working and their applications.

Course Learning Outcomes

After completing the course, the student shall be able to:

- CO1: Students will gain knowledge of the instrumentation.
- CO2: Fundamentals and the applications of various biomedical techniques.
- CO3: Demonstrate knowledge and understanding of Molecular and biochemical engineering.
- CO4: Alternatives of sampling techniques and their analysis.

Unit 1: Instrumentation
Instrument Design and applications of UV-Visible Spectra, IR Spectra, Raman Spectra, Fluorescence spectra, NMR and ESR Spectra Instrument Design and applications of all types of Chromatography, Centrifugation & Ultracentrifugation Viscometry, Osmosis, Diffusion and Surface tension.
Unit 2: Design and Applications
Instrument Design and applications of Paper, gel, Pulsed-field, SDS-PAGE, Capillary Electrophoresis, isoelectric focusing; Potentiometry, pH meter, ion selective electrodes, conductometry
Unit 3: Microscopy
Instrument design of Polarimetry, ORD, CD, Light scattering, Refractometry, Flowcytometry, Cytophotometry, Compound, Phase contrast, Interference, Fluorescence, Polarizing, Transmission Electron Microscopy, CCD Camera, Atomic Force Microscopy


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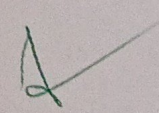
Department of Biotechnology

Head

Department of Biotechnology
Invertis University, Bareilly (U.P.)


Dean

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